In th Claims:

1-22. (Cancelled)

23. (Amended) A method of ~~providing~~ forming a thermal interface ~~between a heat source and a heat sink~~ material, the method comprising:

~~interposing a thermal interface material between the heat source and heat sink which softens at about the operating temperature of the heat source to provide a thermal interface between the heat source and the heat sink during operation of the heat source, the thermal interface material including:~~

mixing a polymer component with a melting point component and a thermally conductive filler to form the thermal interface material, [[a]] the melting component ~~for~~ modifying the temperature at which the thermal interface material softens, the melting point component melting and dissolving the polymer component in the melting point component when heated~~, and~~

~~a thermally conductive filler mixed with the polymer component and the melting point component~~.

24.-25. (Cancelled).

Please add new claims 26-50, as follows:

26. (New) The method of claim 23, wherein the melting point component is selected from the group consisting of C_{12}-C_{16} alcohols, acids, esters, petroleum waxes, wax-like compounds, low molecular weight styrenes, methyl triphenyl silane materials, and combinations thereof.

27. (New) The method of claim 26, wherein the melting point component includes a C_{12}-C_{16} alcohol or acid selected from the group consisting of myristyl alcohol, cetyl alcohol, stearyl alcohol, myristyl acid, stearic acid, and combinations thereof.

28. (New) The method of claim 26, wherein the melting point component includes a wax.

29. (New) The method of claim 28, wherein the wax includes a paraffin wax.

30. (New) The method of claim 23, wherein the polymer component includes an elastomer selected from the group consisting of silicone, acrylic polymers, natural rubber, synthetic rubber, and combinations thereof.

31. (New) The method of claim 23, wherein the polymer component includes a styrene butadiene rubber.

32. (New) The method of claim 23, wherein the polymer component is selected from the group consisting of di-block copolymers and tri-block copolymers.

33. (New) The method of claim 32, wherein the di-block copolymer is a copolymer of styrene and EP rubber.

34. (New) The method of claim 23, wherein the thermally conductive filler is selected from the group consisting of boron nitride, aluminum oxide, nickel powder, copper flakes, graphite powder, powdered diamond, and combinations thereof.

35. (New) The thermal interface material of claim 32, wherein the thermally conductive filler has an average particle size of from about 2 to 100 microns.

36. (New) The method of claim 23, further including:
laminating a reinforcing material to the thermal interface material.

37. (New) A method of forming a thermal interface material comprising:

mixing a polymer component with a melting point component and a thermally conductive filler to form the thermal interface material, the polymer component modifying the temperature at which the thermal interface material softens, the melting point component being selected from the group consisting of C_{12}-C_{16} alcohols, acids, esters, petroleum waxes, wax-like compounds, low molecular weight styrenes, methyl triphenyl silane materials, and combinations thereof.

38. (New) A method of forming a multi-layer strip comprising:

mixing a polymer component with a melting point component and a thermally conductive filler to form the thermal interface material, the polymer component modifying the temperature at which the thermal interface material softens, the melting point component being selected from the group consisting of C_{12}-C_{16} alcohols, acids, esters, petroleum waxes, wax-like compounds, low molecular weight styrenes, methyl triphenyl silane materials, and combinations thereof; and

disposing a second layer on a side of the thermal interface material, the second layer including at least one of:

a protective releasable liner,

a layer of an adhesive material, and

a reinforcing layer.

39. (New) The multi-layer strip of claim 23, wherein the polymer component includes an elastomer selected from the group consisting of silicone, acrylic polymers, natural rubber, synthetic rubber, and combinations thereof.

40. (New) The method of claim 39, wherein the polymer component includes an elastomer selected from the group consisting of silicone, acrylic polymers, natural rubber, synthetic rubber, and combinations thereof.

41. (New) The method of claim 38, wherein the melting point component is a wax or a wax-like compound selected from the group consisting of

microcrystalline wax, paraffin waxes, cyclopentane, heceicosyl, 2-heptadecanone, pentacosaneyl, silicic acid, tetraphenyl ester, octadecanoic acid, 2-[2-[2-(2-hydroxyethoxy) ethoxy]ethoxy]ethyl ester, cyclohexane docosyl, polystyrene, polyamide resins, disiloxane 1,1,1, trimethyl-3,3, triphenyl silane, and combinations thereof.

42. (New) A thermal interface material which undergoes a phase change at microprocessor operating temperatures to transfer heat generated by a heat source to a heat sink, the material comprising:

10-80% of an elastomer;

10-80% of a melting point component selected from the group consisting of a C_{12}-C_{16} alcohol, a C_{12}-C_{16} acid, and a petroleum wax, the elastomer having a solubility parameter which is within +1 and -1 of a solubility parameter of the melting point component; and

10-80% of a thermally conductive filler dispersed within the elastomer and melting point component.

43. (New) The thermal interface material of claim 42, wherein the elastomer is selected from the group consisting of silicone, acrylic polymers, natural rubber, synthetic rubber, and combinations thereof.

44. (New) The thermal interface material of claim 42, wherein the elastomer has a Mooney viscosity of up to 40 ML4.

45. (New) The thermal interface material of claim 42, wherein the melting point component is a C_{12}-C_{16} alcohol or acid selected from the group consisting of myristyl alcohol, cetyl alcohol, stearyl alcohol, myristyl acid, stearic acid, and combinations thereof.

46. (New) The thermal interface material of claim 42, wherein:

the elastomer is at a concentration of from 10-70% by weight;

the filler is at a concentration of from 10-70% by weight; and

the melting point component is at a concentration of from 15-70% by weight.

47. (New) The thermal interface material of claim 42, wherein the thermally conductive filler has a bulk thermal conductivity of between about 0.5 and 1000 watts meter per degree Kelvin.

48. (New) The thermal interface material of claim 42, wherein the thermal interface material has a thermal conductivity of at least 0.8 watts meter per degree Kelvin.

49. (New) The thermal interface material of claim 42, wherein the thermally conductive filler is selected from the group consisting of boron nitride, aluminum oxide, nickel powder, copper flakes, graphite powder, powdered diamond, and combinations thereof.

50. (New) The thermal interface material of claim 42, wherein the thermally conductive filler has an average particle size of from about 2 to 100 microns.